

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
28 October 2004 (28.10.2004)

PCT

(10) International Publication Number  
**WO 2004/092326 A3**

(51) International Patent Classification<sup>7</sup>: C12N 15/82,  
A01H 5/00

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(21) International Application Number:  
PCT/US2004/010599

(22) International Filing Date: 7 April 2004 (07.04.2004)

(25) Filing Language: English

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), Euro-  
pean (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,  
GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK,  
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,  
ML, MR, NE, SN, TD, TG).

(26) Publication Language: English

(30) Priority Data:  
60/461,345 9 April 2003 (09.04.2003) US

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

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(88) Date of publication of the international search report:  
31 March 2005

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For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,

WO 2004/092326 A3

(54) Title: METHODS AND COMPOSITIONS TO INCREASE PLANT RESISTANCE TO STRESS

(57) Abstract: Methods and compositions to improve plant stress tolerance are disclosed. An *Arabidopsis thaliana* MYB8 transcription factor (also known as HOS10) is involved in regulating plant stress response to cold, drought, osmotic stress, phytohormones abscisic acid and salinity.

## INTERNATIONAL SEARCH REPORT

National Application No  
T/US2004/010599

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 C12N15/82 A01H5/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 C12N A01H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, BIOSIS, EMBASE, Sequence Search, EMBL

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |
|----------|---|-----------------------|
| X        | EP 1 033 405 A2 (CERES INCORPORATED)<br>6 September 2000 (2000-09-06)<br>SEQ ID NO: 67644 - 67646<br>-----  | 8-19                  |
| X        | DATABASE EMBL 'Online'<br>29 December 1999 (1999-12-29),<br>"Arabidopsis thaliana putative<br>transcription factor (MYB8) mRNA, complete<br>cds."<br>XP002314994<br>retrieved from EBI accession no.<br>EM_PRO:AF207991<br>Database accession no. AF207991<br>the whole document<br>-/- | 8-19                  |

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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Date of the actual completion of the international search

26 January 2005

Date of mailing of the international search report

14/02/2005

Name and mailing address of the ISA

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## INTERNATIONAL SEARCH REPORT

National Application No

/US2004/010599

| C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT |  |                       |
|--|--|-----------------------|
| Category   | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No. |
| A  | -& STRACKE R ET AL: "THE R2R3-MYB GENE FAMILY IN ARABIDOPSIS THALIANA" CURRENT OPINION IN PLANT BIOLOGY, QUADRANT SUBSCRIPTION SERVICES, GB, vol. 4, no. 5, 2001, pages 447-456, XP001058081<br>ISSN: 1369-5266<br>the whole document  | 1-23                  |
| A  | KASUGA MIE ET AL: "Improving plant drought, salt, and freezing tolerance by gene transfer of a single stress-inducible transcription factor" NATURE BIOTECHNOLOGY, NATURE PUB. CO, NEW YORK, NY, US, vol. 17, no. 3, March 1999 (1999-03), pages 287-291, XP002173128<br>ISSN: 1087-0156<br>the whole document | 1-23                  |
| A  | ABE HIROSHI ET AL: "Arabidopsis AtMYC2 (bHLH) and AtMYB2 (MYB) function as transcriptional activators in abscisic acid signaling." PLANT CELL, vol. 15, no. 1, January 2003 (2003-01), pages 63-78, XP002314993<br>ISSN: 1040-4651<br>page 70, left-hand column; figure 5                                      | 1-23                  |
| A  | WO 01/32002 A1 (BASF CORPORATION; TONELLI, CHIARA) 10 May 2001 (2001-05-10)<br>examples 1,3; table 1   | 1-23                  |
| A  | KRANZ H D ET AL: "TOWARDS FUNCTIONAL CHARACTERISATION OF THE MEMBERS OF THE R2R3-MYB GENE FAMILY FROM ARABIDOPSIS THALIANA" PLANT JOURNAL, BLACKWELL SCIENTIFIC PUBLICATIONS, OXFORD, GB, vol. 16, no. 2, 1998, pages 263-276, XP000929447<br>ISSN: 0960-7412<br>the whole document                            | 1-23                  |

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2004/010599

## Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the International application and necessary to the claimed invention, the International search was carried out on the basis of:
  - a. type of material
    - a sequence listing
    - table(s) related to the sequence listing
  - b. format of material
    - in written format
    - in computer readable form
  - c. time of filing/furnishing
    - contained in the international application as filed
    - filed together with the international application in computer readable form
    - furnished subsequently to this Authority for the purpose of search
2.  In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No  
/US2004/010599

| Patent document cited in search report | Publication date |            | Patent family member(s) | Publication date |
|--|------------------|------------|-------------------------|------------------|
| EP 1033405                             | A2               | 06-09-2000 | CA 2300692 A1           | 25-08-2000       |
| WO 0132002                             | A1               | 10-05-2001 | AU 1467101 A            | 14-05-2001       |